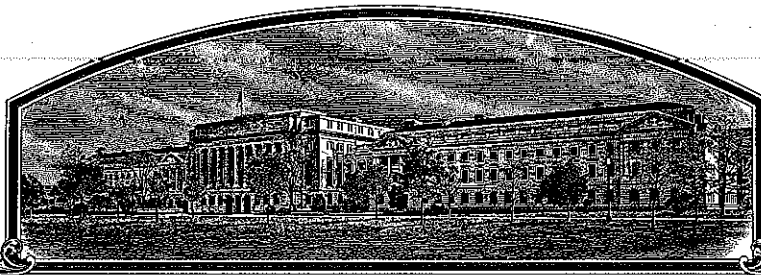


No.

200500100



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Syngenta Seeds, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

CORN, FIELD

'NP2467'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-third day of November, in the year two thousand and seven.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICEAPPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER Syngenta Seeds, Inc.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME		3. VARIETY NAME NP2467	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) P.O. Box 959 Minneapolis, MN 55440		5. TELEPHONE (include area code) (763) 593-7333		FOR OFFICIAL USE ONLY PVPO NUMBER 200500100 FILING DATE <i>Jan. 21, 2005</i>	
		6. FAX (include area code) (763) 593-7828			
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Corporation		8. IF INCORPORATED, GIVE STATE OF INCORPORATION Delaware		9. DATE OF INCORPORATION Sept. 24, 1976	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers)				FILING AND EXAMINATION FEES: \$ 3652.00 DATE 1/21/05 CERTIFICATION FEE: \$ 768.00 DATE 10/11/07	
11. TELEPHONE (include area code) 515-685-5201 (507)-663-7620		12. FAX (include area code) 515-685-5072 (507)-645-7519		13. E-MAIL dana.rewoldt@syngenta.com dave.young@syngenta.com	
14. CROP KIND (Common Name) Corn (dent)		15. GENUS AND SPECIES NAME OF CROP Zea mays L.		16. FAMILY NAME (Botanical) Gramineae	
17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)			
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act <input type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input checked="" type="checkbox"/> NO (If "no," go to item 22) 20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input type="checkbox"/> NO 21. IF "YES" TO ITEM 20, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED			
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)		23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)			
24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF OWNER <i>Ronald S. Ferriss</i>		SIGNATURE OF OWNER			
NAME (Please print or type) Ronald S. Ferriss, Ph.D.		NAME (Please print or type)			
CAPACITY OR TITLE Director, Strategy Facilitation		DATE		CAPACITY OR TITLE	
DATE		DATE		DATE	

INSTRUCTIONS

200500100

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$2,450 (\$300 filing fee and \$2,150 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$300 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvp.htm>

ITEM

- 18a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) evidence of uniformity and stability; and (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
 - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (seed of this variety be sold by variety name only, as a class of certified seed), the applicant MAY NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 5.5 of the Act for instructions on claiming the benefit of an earlier filing date.

22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

Released in a Hybrid, (01/23/04) offered for sale in the U.S. and Canada.

23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

U.S. patent filed on Jan. 20, 2005 (serial # 11/039,563)
issued on Jan. 2, 2007 (patent # 7,157,631)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center-East, Beltsville, MD 20705. Telephone: (301) 504-8089.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 0581-0055 and form number in your letter. Under the PRA of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact the USDA Office of Communications at (202) 720-2791. To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call (202) 720-7327 (voice) or (202) 720-1127 (TDD). USDA is an equal opportunity employer.

S&T-470 (6-98) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (03-96) which is obsolete.

Syngenta Seeds, Inc.
NP2467
Exhibit A

Origin and Breeding History of Corn Inbred Line NP2467

The corn inbred line NP2467 was derived from the initial cross of inbred line NP2158 and inbred line NP2153. Inbred line NP2158 was developed by crossing Holden's Foundation Seeds inbred line LHE136 and inbred line NP2455. NP2455 was derived from a bag of Pioneer 3358 purchased in 1986. NP2153 was derived from B73 and was developed by Illinois Foundation Seeds, Inc.

After the initial cross of NP2158 and NP2153, the breeding method was simple pedigree ear-to-row for the development of inbred line NP2467.

The initial self-pollination of the F₁ source was made at Boynton Beach, FL in the Ciba Geigy Company nursery during the winter of 1995. This was followed by self-pollinating and pedigree selection at Bloomington, IL; Boynton Beach, FL; Kaunakakai, HI; and Salinas, PR from 1996 through 2000.

The chronology of inbreeding is given below:

1995 Boynton Beach, FL (Summer)	Initial cross was made to create F ₁ seed.
1995 Boynton Beach, FL (Winter)	F ₁ plants self-pollinated to create F ₂ population.
1996 Kaunakakai, HI (Summer)	F ₂ plants self-pollinated to produce F ₃ families.
1996 Boynton Beach, FL (Winter)	Plants of selected F ₃ families self-pollinated to produce F ₄ families.
1997 Bloomington, IL	Plants of selected F ₄ families self-pollinated to produce F ₅ families.
1998 Bloomington, IL	Plants of selected F ₅ families self-pollinated to produce F ₆ families.
1999 Bloomington, IL	Plants of selected F ₆ families self-pollinated to produce F ₇ families.
1999 Salinas, PR (Winter)	Plants of selected F ₇ families self-pollinated to produce F ₈ lines.
2000 Bloomington, IL	Selected F ₈ lines self-pollinated and ear rows bulked to produce Breeder Seed.

Selection criteria used during the inbreeding process included synchronous male and female flowering, plant health, ear fill, pre-harvest intactness and resistance to various stalk rots. Plants within each generation were also closely evaluated for uniformity of cob color, anther and silk color, and plant and ear height. Selection was also done for general and specific combining ability for yield in hybrid combinations across several inbreds.

From 1998 to the present, the inbred line has been observed in Bloomington, IL; Glidden, IA; Seward, NE; Washington, IA; and other locations. No phenotypic or isozymic variants have been observed.

Syngenta Seeds, Inc.
NP2467
Exhibit A (Continued)

NP2467 is a uniform and stable inbred (from 2000 to 2004 during at least 6 generations of propagation).

Syngenta Seeds, Inc.
NP2467
Exhibit B

Distinctness of Corn Inbred Line NP2467

The corn inbred line NP2467 (seed source 2641M60F15) is most similar to the PVP Standard Inbred line B73 (seed source DY191083). Comparison of the two varieties was conducted in "side-by-side" trials in 2003 and 2004 at four different sites. The trial locations were Rochelle, IL; Glidden, IA Seward, NE and Bloomington, IL. The trials had two replications at each site. Plot size was 152 x 518 cm. Each plot had approximately 70 plants.

Several tables have been included in Exhibit D – Optional Additional Description of Variety, to supply the required information for all quantitative characteristics cited as distinct differences. These additional tables will contain all the statistical information including sample size, mean, LSD (at the 95% confidence level) ANOVA, the probability value, etc. The method used to calculate the statistics of the combined location summary of the traits that have distinct differences use a mean value or a single data entry per replication and does not use all the individual data points per row (or subsets). The number of actual data measurements taken per quantitative traits was based upon the recommendations of the Plant Variety Protection Office. Exhibit D – Table 4 or the 2003 and 2004 Data - NP2467 vs. B73 Comparisons, contains the grand mean, number of trials with data, number of entries with data, LSD (95% confidence level), CV%, probability %, and the individual location means for all traits that are significantly different. Exhibit D – Table 5, or the 2003 and 2004 Data – NP2467 vs. B73 Comparisons – ANOVA Tables, contains additional statistical data for the traits that are significantly different. Exhibit D – Table 6 or the 2003 and 2004 Data - NP2467 vs. B73 Comparisons, Individual Replication Data, contains the data collected at all locations in 2003 and 2004 for each trait that is significantly different. Exhibit D – Table 7 or the 2003 Data - NP2467 vs. B73 Comparisons, contains the grand mean, number of trials with data, number of entries with data, LSD (95% confidence level), CV%, and probability % for the data collected at all locations in 2003 for each trait that is significantly different. Exhibit D – Table 8 or the 2004 Data - NP2467 vs. B73 Comparisons, contains the grand mean, number of trials with data, number of entries with data, LSD (95% confidence level), CV%, and probability % for the data collected at all locations in 2004 for each trait that is significantly different.

In each of these plots the B73 comparison line had a cob color at harvest of red-14.

(Munsell 10R 5/8)

In each of these plots NP2467 had a cob color at harvest of white-19. (Munsell N9.5)

NP2467 is a distinct and unique inbred line for a number of different traits but the above identified cob color easily shows the clear distinction between the two lines.

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EXHIBIT B NP2467

PLOT NUMBER	TRAITS			
	TRIAL	EXTERNAL INBRED CODE	E19	
			COBC	
			VALUE	COLOR
1011	JT610	NP2467	19	WHITE
2002	JT610	NP2467	19	WHITE
	Loc. Mean			
1007	JT610	NP2467		19
2005	JT610	NP2467		19
	Loc. Mean			
1001	JT610	NP2467	WHITE	19
2021	JT610	NP2467	WHITE	19
	Loc. Mean			
1015	610	NP2467		19
2011	610	NP2467		19
	Loc. Mean			
1005	JT610	NP2467	19	White
2003	JT610	NP2467	19	White
	Loc. Mean			
1005	JT610	NP2467		19
2021	JT610	NP2467		
	Loc. Mean			
1005	JT610	NP2467	WHITE	19
2029	JT610	NP2467	WHITE	19
	Loc. Mean			
1005	610	NP2467		19
2021	610	NP2467		19

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EXHIBIT B B73

PLOT NUMBER	TRAITS			
	TRIAL	EXTERNAL INBRED CODE	E19	
			COBC	
			VALUE	COLOR
1002	JT610	B73	10R 7/4	8
2020	JT610	B73		
	Loc. Mean			
1010	JT610	B73	10R 4/10	14
2014	JT610	B73	10R 5/8	12
	Loc. Mean			
1010	JT610	B73	2.5YR 6/8	11
2006	JT610	B73	10R 5/8	14
	Loc. Mean			
1021	610	B73	10R5/8	14
2002	610	B73	10R6/8	12
	Loc. Mean			
1027	JT610	B73	10	10R5/8
2005	JT610	B73	10	10R5/8
	Loc. Mean			
1027	JT610	B73	10R 5/6	14
2030	JT610	B73		
	Loc. Mean			
1027	JT610	B73	10R 5/8	14
2018	JT610	B73	10R 6/6	11
	Loc. Mean			
1027	610	B73	10R 5/8	13
2003	610	B73	10R 5/8	13

OBJECTIVE DESCRIPTION OF VARIETY

CORN (*Zea mays* L.)

Name of Applicant(s) Syngenta Seeds, Inc.	Variety Seed Source 2641M60F15	Variety Name or Temporary Designation NP2467
Address (Street & No., or R.F.D. No., City, State, Zip Code and Country) P.O. Box 959, Minneapolis, MN 55440 USA	FOR OFFICIAL USE	PVPO Number 200500100
Place the appropriate number that describes the varietal characters typical of this inbred variety in the spaces below. Right justify whole numbers by adding leading zeroes if necessary. Completeness should be striven for to establish an adequate variety description. Traits designated by a '*' are considered necessary for and adequate variety description and must be completed.		
COLOR CHOICES (Use in conjunction with Munsell color code to describe all color choices: describe #25 and #26 in comment section):		
01=Light Green 06=Pale Yellow 11=Pink 16=Pale Purple 21=Buff	02=Medium Green 07=Yellow 12=Light Red 17=Purple 22=Tan	03=Dark Green 08=Yellow-Orange 13=Cherry Red 18=Colorless 23=Brown
04=Very Dark Green 09=Salmon 14=Red 19=White 24=Bronze	05=Green-Yellow 10=Pink-Orange 15=Red & White 20=White Capped 25=Variegated (Describe)	26=Other (Describe)
STANDARD INBRED CHOICES(Use the most similar(in background and maturity)of these to make comparisons based on grow-out trial data):		
Yellow Dent Families:	Yellow Dent (Unrelated):	Sweet Corn:
Family Members	Co109, ND246,	C13, Iowa5125, P39, 2132
B14 CM105, A632, B64, B68	Oh7, T232	
B37 B37, B76, H84	W117, W153R	Popcorn:
B73 N192, A679, B73, NC268	W182BN	SG1533, 4722, HP301, HP7211
C103 Mo17, Va102, Va35, A682		
Oh43 A619, MS71, H99, Va26	White Dent:	Pipicorn:
WF9 W64A, A554, A654, Pa91	CI66, H105, Ky228	Mo15W, Mo16W, Mo24W
1. TYPE: (describe intermediate types in Comments section)		Standard Inbred Name B73
*2 1=Sweet 2=Dent 3=Flint 4=Flour 5=Pop 6=Ornamental 7=Pipecorn		
2. REGION WHERE DEVELOPED IN THE U.S.A.:		Standard Seed Source DY191083
*5 1=Northwest 2=Northcentral 3=Northeast 4=Southeast 5=Southcentral 6=Southwest 7=Other		
3. MATURITY (In Region Best Adaptability; show Heat Unit formula in "Comments" section):		
DAYS HEAT UNITS		DAYS HEAT UNITS
* 067 1371.0 From emergence to 50% of plants in silk		66 1344.4
* 065 1341.8 From emergence to 50% of plants in pollen		63 1282.0
003 83.5 From 10% to 90% pollen shed		002 82.1
(*) NA NA From 50% silk to optimum edible quality		NA NA
053 924.7 From 50% silk to harvest at 25% moisture		051 1035.0
4. PLANT:		
	Standard Deviation Sample Size	Standard Deviation Sample Size
* 212.6 cm Plant Height (to tassel tip)	16.6 16	215.3 20.4 16
* 74.3 cm Ear Height (to base of top ear node)	9.9 16	90.0 11.9 16
11.4 cm Length of Top Ear Internode	1.3 16	12.8 1.3 16
0.4 Average Number of Tillers	0.9 16	0.1 0.4 16
* 1.2 Average Number of Ears per Stalk	0.2 16	1.4 0.3 16
4 Anthocyanin of Brace Roots: 1=Absent 2=Faint 3=Moderate 4=Dark		4
Application Variety Data Page 1		Standard Inbred Data

Applicant Variety Data			Page 2		Standard Inbred Data		
5. LEAF:			Standard Deviation	Sample Size	Standard Deviation Sample Size		
*	008.3	cm Width of Ear Node Leaf	0.7	16	009.2	0.4	16
*	078.4	cm Length of Ear Node Leaf	5.9	16	080.2	7.1	16
*	007	Number of leaves above top ear	0.6	16	006	0.4	16
	015	degrees Leaf Angle (measure from 2 nd leaf above ear at anthesis to stalk above leaf)	5.5	16	020	6.3	16
*	03	Leaf Color (Munsell code 5GY 4/4)			04	(Munsell code 5GY 3/4)	
	6	Leaf Sheath Pubescence (Rate on scale from 1=none to 9=like peach fuzz)			5		
	4	Marginal Waves (Rate on scale from 1=none to 9=many)			4		
	3	Longitudinal Creases (Rate on scale from 1=none to 9=many)			4		
6. TASSEL:							
*	07	Number of Primary Lateral Branches	1.6	16	07	0.9	16
	028	Branch Angle from Central Spike	16.2	16	016	8.6	16
*	42.4	Cm Tassel Length (from top leaf collar to tassel tip)	3.0	16	39.1	2.7	16
	6	Pollen Shed (Rate on scale from 0=male sterile to 9=heavy shed)			6		
	05	Anther Color (Munsell code 2.5GY 8/6)			26	(Munsell code	
	05	Glume Color (Munsell code 2.5GY 8/6)			26	(Munsell code)	
	2	Bar Glumes (Glume Bands): 1=Absent 2=Present			2		
7a. EAR (Unhusked Data):							
*	05	Silk Color (3 days after emergence) (Munsell code 2.5GY 8/6)			26	(Munsell code	
	05	Fresh Husk Color(25 days after 50% silking) (Munsell code 5GY 7/8)			05	(Munsell code 5GY 6/6)	
	22	Dry Husk Color (65 days after 50 % silking) (Munsell code 5Y 8/6)			22	(Munsell code 5Y 8/6)	
*	1	Position of Ear at Dry Husk Stage: 1=Upright 2=Horizontal 3=Pendent			1		
	5	Husk Tightness (Rate on scale from 1=very loose to 9=very tight)			6		
	2	Husk Extension (at harvest): 1=Short (ears exposed) 2=Medium (<8cm) 3=Long (8-10 cm beyond ear tip) 4=Very long (>10 cm)			3		
7b. EAR (Husked Ear Data):			Standard Deviation	Sample Size	Standard Deviation	Sample Size	
*	14.2	cm Ear Length	0.7	16	13.2	1.1	16
*	42.9	mm Ear Diameter at mid-point	1.4	16	43.9	2.0	16
	108.9	gm Ear Weight	19.7	16	98.0	23.4	16
*	16	Number of Kernel Rows	0.9	16	17	0.7	16
	2	Kernel Rows: 1=Indistinct 2=Distinct			2		
	2	Row Alignment: 1=Straight 2=Slightly Curved 3=Spiral			1		
	6.9	cm Shank Length	1.8	16	6.8	2.2	15
	2	Ear Taper: 1=Slight 2=Average 3=Extreme			1		
Application Variety Data			Standard Inbred Data				
Note: Use chart on first page to choose color codes for color traits							

See
Comments
section
for
detail

SMS 4/11/07

Applicant Variety Data			Page 3	Standard Inbred Data		
8. KERNEL (Dried):			Standard Deviation	Sample Size	Standard Deviation Sample Size	
10.9	mm Kernel Length	0.5	16	11.0	0.5	15
07.2	mm Kernel Width	0.5	16	07.4	0.8	15
04.0	mm Kernel Thickness	0.5	16	04.2	0.5	15
29.8	% Round Kernels (Shape Grade)	15.8	16	32.4	19.2	15
1	Aleurone Color Pattern: 1=Homozygous 2=Segregating			1		
(*) 18	Aleurone Color (Munsell code)			18	(Munsell code)	
* 07	Hard Endosperm Color (Munsell code 2.5Y 7/10)			06	(Munsell code 2.5Y 8/10)	
* 3	Endosperm Type: 1=Sweet (su1) 2=Extra Sweet (sh2) 3=Normal Starch 4=High Amylose Starch 5=Waxy Starch 6=High Protein 7=High Lysine 8=Super Sweet (se) 9=High Oil 10=Other			3		
25.0	gm Weight per 100 Kernels (unsized sample)	2.5	16	23.4	3.3	15
9. COB			Standard Deviation	Sample Size	Standard Deviation Sample Size	
* 26.2	mm Cob Diameter at mid-point	2.4	16	28.4	2.0	15
19	Cob Color (Munsell code N9.5)			14	(Munsell code 10R 5/8)	
10. DISEASE RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant): leave blank if not tested: leave Race or Strain Options blank if polygenic):						
A. Leaf Blights, Wilts, and Local Infection Diseases						
5	Anthrachnose Leaf Blight (<i>Colletotrichum graminicola</i>)			4		
	Common Rust (<i>Puccinia sorghi</i>)					
	Common Smut (<i>Ustilago maydis</i>)					
	Eyespot (<i>Kabatiella zeae</i>)					
	Goss's Wilt (<i>Clavibacter michiganense</i> spp. <i>Nebraskense</i>)					
6	Gray Leaf Spot (<i>Cercospora zeae-maydis</i>)			4		
	Helminthosporium Leaf Spot (<i>Bipolaris zeicola</i>) Race				Race	
	Northern Leaf Blight (<i>Exserohilum turcicum</i>) Race				Race	
6	Southern Leaf Blight (<i>Bipolaris maydis</i>) Race O			3	Race O	
	Southern Rust (<i>Puccinia polysora</i>)					
	Stewart's Wilt (<i>Erwinia stewartii</i>)					
	Other (Specify)					
B. Systemic Diseases						
	Corn Lethal Necrosis (MCMV and MDMV)					
	Head Smut (<i>Sphacelotheca reiliana</i>)					
	Maize Chlorotic Dwarf Virus (MCDV)					
	Maize Chlorotic Mottle Virus (MCMV)					
	Maize Dwarf Mosaic Virus (MDMV) Strain				Strain	
	Sorgham Downy Mildew of Corn (<i>Peronosclerospora soghi</i>)					
	Other (Specify)					
C. Stalk Rots						
	Anthrachnose Stalk Rot (<i>Colletotrichum graminicola</i>)					
	Diplodia Stalk Rot (<i>Stenocarpella maydis</i>)					
	Fusarium Stalk Rot (<i>Fusarium moniliforme</i>)					
	Gibberella Stalk Rot (<i>Gibberella zeae</i>)					
	Other (Specify)					
Ear and Kernel Rots						
	Aspergillus Ear and Kernel Rot (<i>Aspergillus flavus</i>)					
	Diplodia Ear Rot (<i>Stenocarpella maydis</i>)					
	Fusarium Ear and Kernel Rot (<i>Fusarium moniliforme</i>)					
	Gibberella Ear Rot (<i>Gibberella zeae</i>)					
	Other (Specify)					
Application Variety Data			Standard Inbred Data			
Note: Use chart on first page to choose color codes for color traits						

Applicant Variety Data		Page 4	Standard Inbred Data	
11. INSECT RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant): leave blank if not tested: Banks Grass Mite (<i>Oligonychus pratensis</i>) Standard Deviation Sample Size Corn Earworm Leaf-Feeding Silk-Feeding: mg larval wt. Ear Damage Corn Leaf Aphid (<i>Rhopalosiphum maidis</i>) Corn Sap Beetle (<i>Carpophilus dimidiatus</i>) European Corn Borer (<i>Osstrinia nubilalis</i>) 3 1 st Generation (Typically Whorl Leaf Feeding) 2 nd Generation (Typically Leaf Sheath-Collar feeding) Stalk Tunneling: cm tunneled /plant Fall Armyworm Leaf-Feeding Silk-Feeding: mg larval wt. Maize Weevil (<i>Sitophilus zeamais</i>) Northern Rootworm (<i>Diabrotica barberi</i>) Southern Rootworm (<i>Diabrotica undecimpunctata</i>) Southwestern Corn Borer (<i>Diatraea grandiosella</i>) Leaf-Feeding Stalk Tunneling: cm tunneled/plant Twospotted Spider Mite (<i>Tetranychus urticae</i>) Western Rootworm (<i>Diabrotica virgifera virgifera</i>)			Standard Deviation Sample Size Standard Deviation Sample Size 3	
12. AGRONOMIC TRAITS:				
5	Stay Green (at 65 days after anthesis) (rate on scale from 1=worst to 9=excellent.)		8	
0	% Dropped Ears (at 65 days after anthesis)		0	
1	% Pre-anthesis Brittle snapping		0	
3	% Pre-anthesis Root Lodging		12	
0	% Post-anthesis Root Lodging (at 65 days after anthesis)		1	
6617	Kg/ha Yield of Inbred Per Se (at 12-13% grain moisture)		5548	
13. MOLECULAR MARKERS: (0=data unavailable: 1 data available but not supplied: 2=data supplied)				
1	Isozymes	1	RFLP's	RAPD's
REFERENCES:				
Butler, D.R. 1954. A System for the Classification of corn Inbred Lines. PhD thesis. Ohio State University. Emerson, R. A., G.W. Beadle, and A.C. Fraser. 1935. A Summary of Linkage Studies in Maize. Cornell A.E.S., Mem. 180 Farr, D.F., G.F. Bills, G.P. Chamuris, A.Y. Rossman. 1989. Fungi on Plant and Plant Products in the United States. The American Phytopathological Society, St. Paul, MN. Inglett, G.E. (Ed) 1970. Corn: Culture, Processing, Products. Avi Publishing Company, Westport, CT. Jugenheimer, R.W. 1976. Corn: Improvement. Seed Production, and Uses. John Wiley & Sons, New York. McGee, D.C. 1988. Maize Diseases. AOS Press, St. Paul, MN. 150 pp. Munsell Color Chart for Plant Tissues. Mabeth. P.O. Box 230. Newburgh, N.Y. 12551-0230 The Mutants of Maize. 1968. Crop Science Society of America. Madison, WI. Shurtleff, M.C. 1980. Compendium of Corn Diseases. APS Press, St. Paul, MN. 105 pp. Sprague, G.F., and J.W. Dudley (Editors). 1988 Corn and Corn Improvement, Third Edition. Agronomy Monograph 18. ASA, SCCA, SSSA, Madison, WI. Stringfield, G.H. Maize Inbred Lines of Ohio. Ohio A.E.S., Bul. 831. 1959 U.S. Department of Agriculture. 1936, 1937. Yearbook.				

COMMENTS (eg. state how heat units were calculated, standard inbred seed source, and /or where data was collected. Continue in Exhibit D):

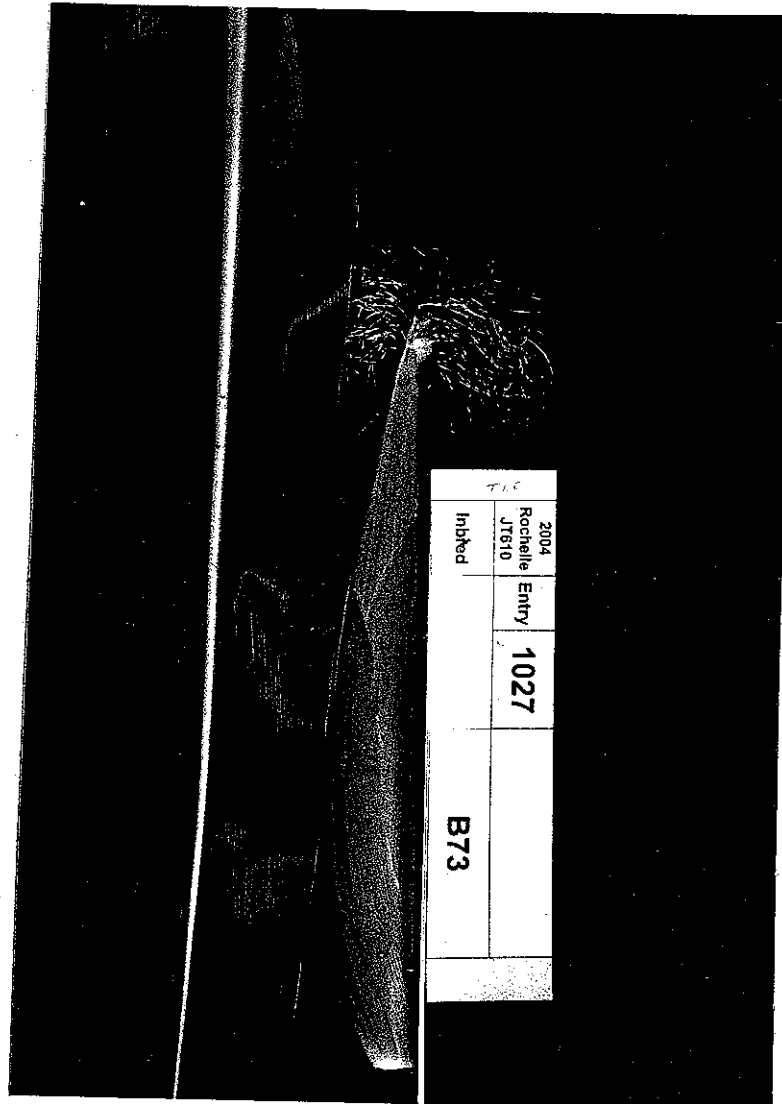
- 1) Heat Units per day were calculated using the standard formula: $HU = \{ \text{MaxTemp (86)} + \text{Min Temp (50)} \} / 2 - 50$.
- 2) Data for this exhibit was collected at London, Ontario, Canada, Stanton, MN and Janesville, WI.
- 3) Large standard deviations are probably due to environmental factors at each individual location where the variety was observed. Since the varieties reported in this exhibit are inbreds, the response to the environment is probably more pronounced than a hybrid or a combination of these inbred lines. Any stress at specific times during the growing season could influence results.
- 4) The Anther color of B73 is green yellow (2.5GY 8/6 or 05) with purple (17).
- 5) The glume color of B73 is green yellow (2.5GY 8/6 or 05) with purple (17).
- 6) Silk Color of B73 is green/yellow (2.5GY 8/6 or 05) but shades pale purple (2.5R 6/4 or 16) with age.
- 7) The Insect data reported was collected at Bloomington, IL in 2004
- 8) The Disease data reported was collected at Bloomington, IL in 2004

Point 5(a, (b) and (c)-There is a concern that there are large Standard deviations for certain NP2467 and B73 data. As noted by the Examiner the Trial conditions of the locations may have been the cause of this. The environmental data for London Ontario Canada and for the Stanton Minnesota trials in the two years is being submitted. The environmental information for Janesville is not presently available.

The London trial location may be causing the standard deviations for these plants to be a bit wider than normal for a couple of reasons. The planting dates for the London trials was substantially later than the dates for the Stanton planting. London is in an area that plants 83-90 day corn and Stanton and Janesville are locations that plant 94-102 day corn. In addition to the relative maturity difference between the locations, the delayed plantings due to the weather conditions in London provide even less time for the plants to mature.

London normally plants in the May 5- May 10 range. But in both years the actual planting dates were substantially later than this date. The environment in 2003 was hotter than normal. To the extent that London trial resorted to nursery irrigation to attempt to avoid moisture stress at flowering time. In contrast, London had a very wet spring in 2004 which even further delayed the already late dates for planting. If the unusual environmental conditions are removed from the Exhibit C data it is believed that the standard deviations for the standard line B73 and NP2467 would be more in line with expected numbers. If the Examiner would like a new Exhibit C with the outlier data from out of area trials removed and the standard deviations for the Exhibit recalculated we would request that the Examiner contact us so that we can supply the substitute Exhibit C. Thanks for your review of this information. Please contact us if you need further information for your review of the application.

Additional Description of the Corn Inbred Line NP2467
Table 1



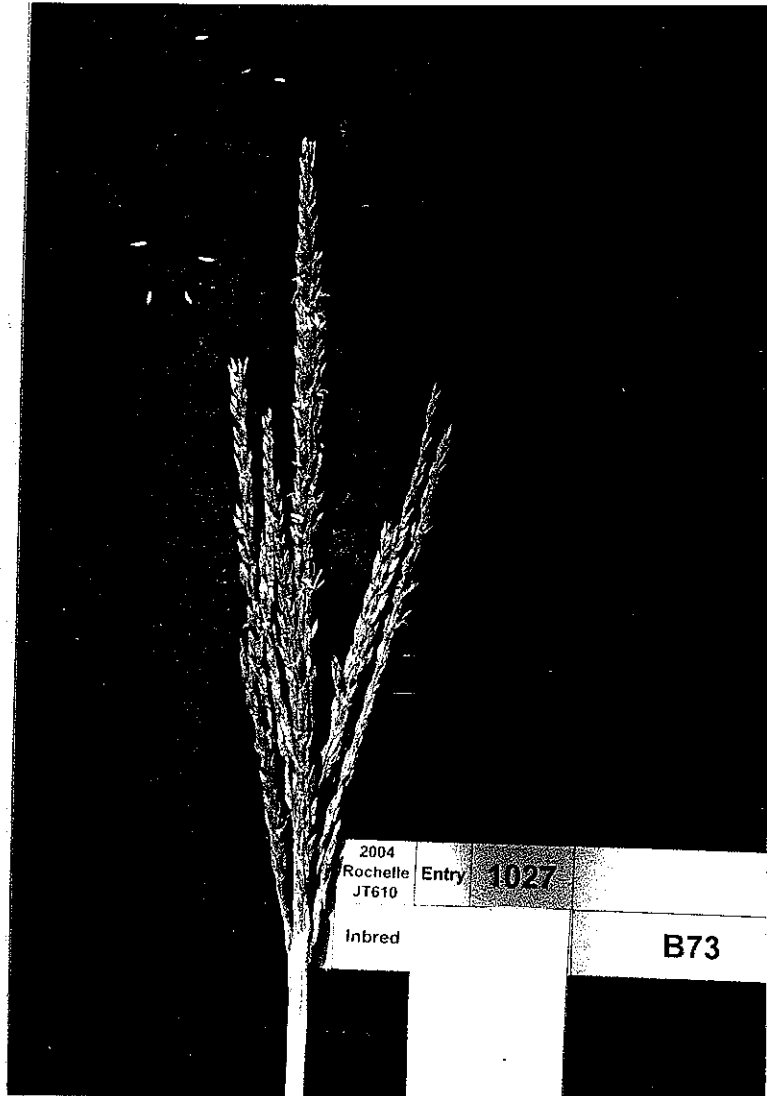
Typical B73 Silk and Second Leaf Color

Additional Description of the Corn Inbred Line NP2467
Table 1 (continued)



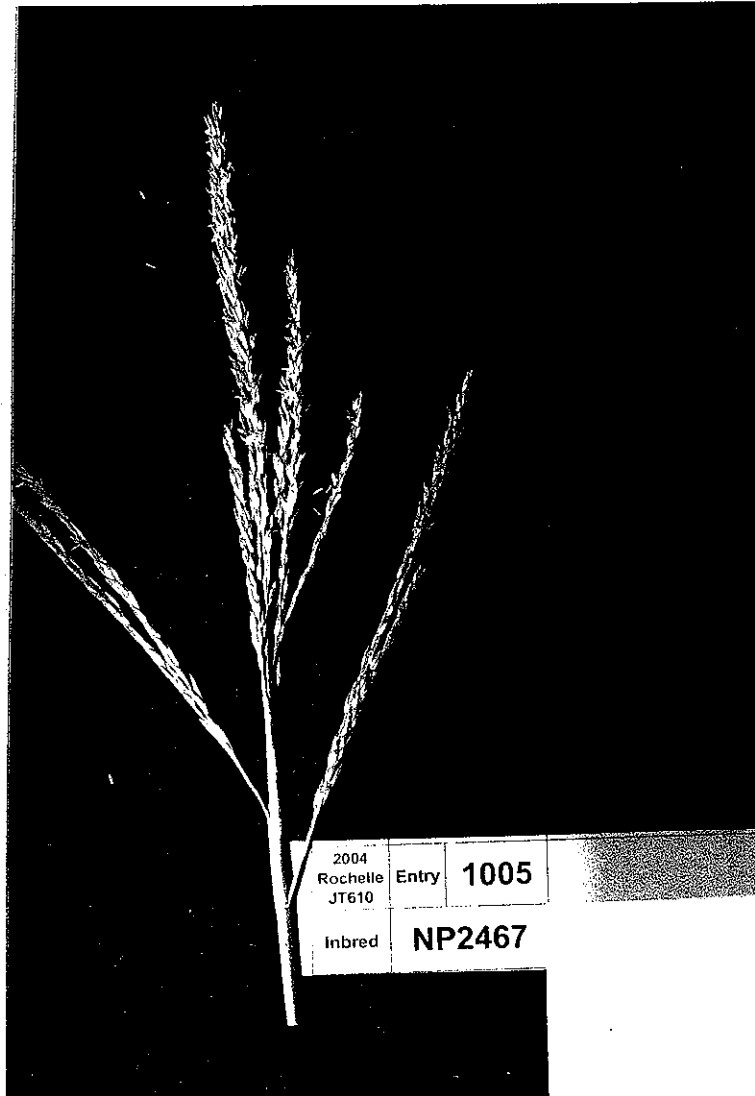
Typical NP2467 Silk and Second Leaf Color

**Additional Description of the Corn Inbred Line NP2467
Table 2**



Typical B73 Tassel

**Additional Description of the Corn Inbred Line NP2467
Table 2 (continued)**

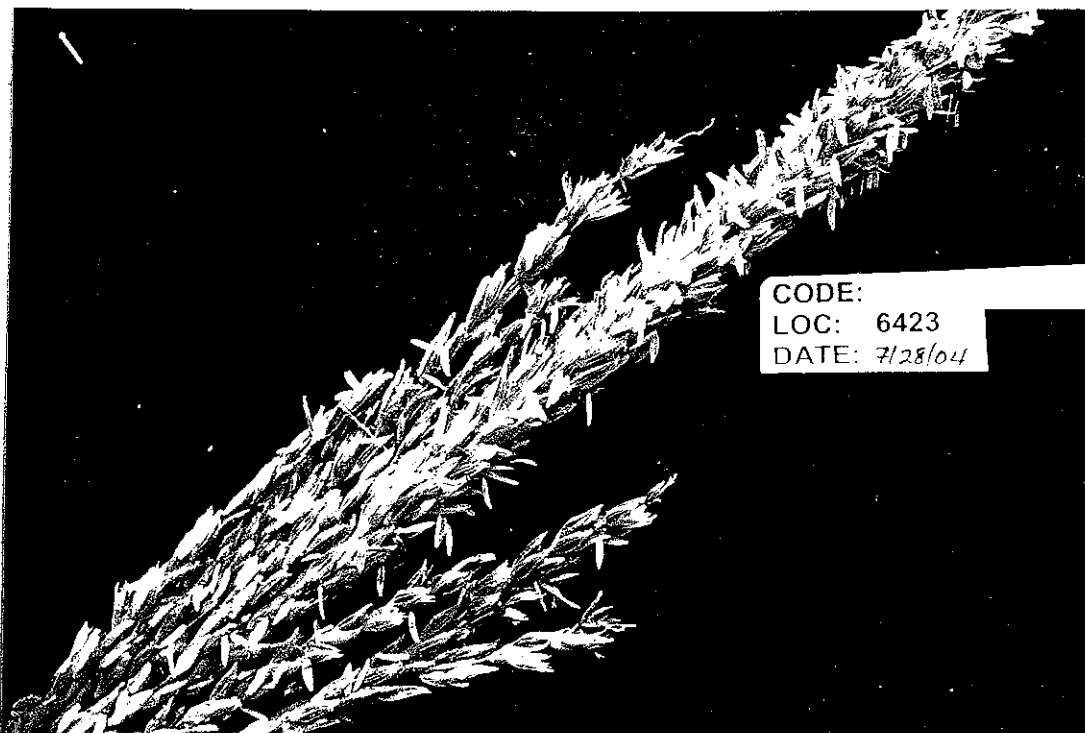


Typical NP2467 Tassel

EXHIBIT D

005 00100
2005 00100

Additional Description of the Corn Inbred Line NP2467
Table 3



CODE:
LOC: 6423
DATE: 7/28/04

Anther and Glume Color of B73



CODE:
LOC: 6423
DATE: 7/29/04

Anther and Glume Color of NP2467

Combined Summary:

NP2467	15	26	74	109
B73	20	28	90	98
Mean General	18	27	82	103
Mean Control	8	8	8	8
Trials w/data	2	2	2	2
Entries w/data	4	1	4	9
LSD General (5%) EE	21	3	4	7
CV (Effective) %	3	0	0	3
Probability %				

Individual Location Data - NP2467:

2003 Rochelle, IL	20	26	54	83
2003 Glidden, IA	20	24	74	99
2003 Seward, NE	10	26	69	99
2003 Bloomington, IL	9	28	82	99
2004 Rochelle, IL	20	24	85	119
2004 Glidden, IA	8	25	72	149
2004 Seward, NE	18	25	80	107
2004 Bloomington, IL	18	31	80	117
Mean	15	26	74	109

Individual Location Data - B73:

2003 Rochelle, IL	20	28	63	57
2003 Glidden, IA	20	26	92	99
2003 Seward, NE	20	30	91	99
2003 Bloomington, IL	10	31	100	84
2004 Rochelle, IL	20	28	101	101
2004 Glidden, IA	15	26	88	141
2004 Seward, NE	30	29	89	108
2004 Bloomington, IL	28	31	97	97
Mean	20	28	90	98

Combined Summary:

NP2467
B73

Mean General
Mean Control
Trials w/data
Entries w/data
LSD General (5%) EE
CV (Effective) %
Probability %

Heat Units to 10% Pollen Shed	Heat Units to 90% Pollen Shed	Heat Units to 50% Pollen Shed	Length of Tassel (cm)
1321	1389	1342	42
1249	1316	1282	39
1285	1353	1312	41
7	8	8	8
2	2	2	2
26	46	27	2
2	3	2	5
0	1	0	2

Individual Location Data - NP2467:

2003 Rochelle, IL
2003 Glidden, IA
2003 Seward, NE
2003 Bloomington, IL
2004 Rochelle, IL
2004 Glidden, IA
2004 Seward, NE
2004 Bloomington, IL
Mean

1304	1507	1385	41
1294	1345	1321	46
1334	1450	1370	46
1616	1678	1642	41
1169	1209	1193	43
1306	1351	1327	42
1227	1296	1257	37
	1276	1244	42
1321	1389	1342	42

Individual Location Data - B73:

2003 Rochelle, IL
2003 Glidden, IA
2003 Seward, NE
2003 Bloomington, IL
2004 Rochelle, IL
2004 Glidden, IA
2004 Seward, NE
2004 Bloomington, IL
Mean

1213	1318	1266	35
1267	1317	1292	43
1232	1346	1302	43
1549	1630	1589	39
1069	1181	1124	39
1233	1263	1249	39
1185	1267	1243	40
	1209	1196	36
1249	1316	1282	39

Combined Summary:

NP2467
 B73

Mean General
 Mean Control
 Trials w/data
 Entries w/data
 LSD General (5%) EE
 CV (Effective) %
 Probability %

Length
of Internode
(cm)

Stay
Green
Rating

11	5
13	2
12	3
8	6
2	2
1	2
9	46
5	0

Individual Location Data - NP2467:

2003 Rochelle, IL
 2003 Glidden, IA
 2003 Seward, NE
 2003 Bloomington, IL
 2004 Rochelle, IL
 2004 Glidden, IA
 2004 Seward, NE
 2004 Bloomington, IL
 Mean

9	5
11	
12	5
11	2
12	4
12	
13	3
12	7
11	5

Individual Location Data - B73:

2003 Rochelle, IL
 2003 Glidden, IA
 2003 Seward, NE
 2003 Bloomington, IL
 2004 Rochelle, IL
 2004 Glidden, IA
 2004 Seward, NE
 2004 Bloomington, IL
 Mean

11	2
14	
14	1
13	3
14	1
14	
11	1
12	2
13	2

Syngenta Seeds, Inc.
2003 and 2004 Data - NP2467 vs. B73 Comparisons
Exhibit D - Table 5

200500100

TRAIT	SOURCE	DF	SS1	SS2	MS	F	P_PCT
Angle 2nd <u>Leaf</u>	Treatment	1	105.42	105.42	105.42	7.63	2.7977
	Location	7	386.49		55.21	4	4.3857
	Treatment*Location	7	96.66		13.81		
	Pooled Error	185			15.81		
	Total	15	588.57				
Cob Diameter (mm)	Treatment	1	18.93	18.93	18.93	20.86	0.2581
	Location	7	59.78		8.54	9.41	0.4217
	Treatment*Location	7	6.35		0.91		
	Pooled Error	179			0.91		
	Total	15	85.06				
Ear Height (cm)	Treatment	1	984.93	984.93	984.93	98.65	0.0022
	Location	7	1610.89		230.13	23.05	0.0252
	Treatment*Location	7	69.89		9.98		
	Pooled Error	190			26.35		
	Total	15	2665.71				
Ear Weight (gm)	Treatment	1	456.87	456.87	456.87	8	2.5492
	Location	7	6146.47		878.07	15.37	0.093
	Treatment*Location	7	399.98		57.14		
	Pooled Error	179			79.62		
	Total	15	7003.32				
Heat Units to 10% <u>Pollen Shed</u>	Treatment	1	18126.59	18126.59	18126.59	44.22	0.0559
	Location	6	246920.06		41153.34	100.39	0.0009
	Treatment*Location	6	2459.49		409.92		
	Pooled Error	158			1154.82		
	Total	13	267506.13				

Syngenta Seeds, Inc.
2003 and 2004 Data - NP2467 vs. B73 Comparisons
Exhibit D - Table 5

200500100

TRAIT	SOURCE	DF	SS1	SS2	MS	F	P_PCT
Heat Units to 90% <u>Pollen Shed</u>	Treatment	1	21133.52	21133.52	21133.52	13.82	0.7477
	Location	7	281391.79		40198.83	26.29	0.0163
	Treatment*Location	7	10702.43		1528.92		
	Pooled Error	186			1047.07		
	Total	15	313227.74				
Heat Units to 50% <u>Pollen Shed</u>	Treatment	1	14278.43	14278.43	14278.43	27.69	0.1171
	Location	7	258520.85		36931.55	71.61	0.0006
	Treatment*Location	7	3609.91		515.7		
	Pooled Error	186			1023.91		
	Total	15	276409.19				
Length of Tassel (<u>cm</u>)	Treatment	1	42.03	42.03	42.03	10.22	1.5127
	Location	7	90.58		12.94	3.15	7.6717
	Treatment*Location	7	28.79		4.11		
	Pooled Error	161			6.36		
	Total	15	161.4				
Length of Internode (<u>cm</u>)	Treatment	1	7.78	7.78	7.78	5.92	4.5229
	Location	7	14.33		2.05	1.56	28.652
	Treatment*Location	7	9.2		1.31		
	Pooled Error	190			1.25		
	Total	15	31.3				
Stay Green <u>Rating</u>	Treatment	1	28.79	28.79	28.79	10.27	2.3866
	Location	5	6.63		1.33	0.47	78.4358
	Treatment*Location	5	14.01		2.8		
	Pooled Error	142			0.49		
	Total	11	49.44				

Syngenta Seeds, Inc.
2003 and 2004 Data - NP2467 vs. B73 Comparisons
Exhibit D - Table 6 - Individual Replication Data

<u>Inbred Name</u>	<u>Loc.</u>	<u>Replication</u>	<u>Year Date</u>	<u>Angle 2nd Leaf</u>	<u>Cob Diameter (mm)</u>			
NP2467	Rochelle, IL	Rep. 1	2003	20	28	27	28	28
NP2467	Rochelle, IL	Rep. 2	2003	20	24			25
	Location Mean			20				26
NP2467	Glidden, IA	Rep. 1	2003	15	24	24	24	24
NP2467	Glidden, IA	Rep. 2	2003	25	23	23	23	23
	Location Mean			20				24
NP2467	Seward, NE	Rep. 1	2003	10	28	27	24	26
NP2467	Seward, NE	Rep. 2	2003	10	26	28	27	27
	Location Mean			10				26
NP2467	Bloomington, IL	Rep. 1	2003	7	28	29	30	29
NP2467	Bloomington, IL	Rep. 2	2003	10	27	26	25	27
	Location Mean			9				28
NP2467	Rochelle, IL	Rep. 1	2004	20	25	26	24	25
NP2467	Rochelle, IL	Rep. 2	2004	20	24	24	24	24
	Location Mean			20				24
NP2467	Glidden, IA	Rep. 1	2004	5	23	25	28	25
NP2467	Glidden, IA	Rep. 2	2004	10	26	26	24	25
	Location Mean			8				25
NP2467	Seward, NE	Rep. 1	2004	16	27	26	28	27
NP2467	Seward, NE	Rep. 2	2004	20	23	22	24	23
	Location Mean			18				25
NP2467	Bloomington, IL	Rep. 1	2004	20	32	33	30	31
NP2467	Bloomington, IL	Rep. 2	2004	15	30	30	30	30
	Location Mean			18				31
Mean				15				26
Std. Dev.				5.5				2.4

200500100

Syngenta Seeds, Inc.
2003 and 2004 Data - NP2467 vs. B73 Comparisons
Exhibit D - Table 6 - Individual Replication Data

Inbred Name	Loc.	Replication	Year Date	Ear Height (cm)					Ear Weight (gm)				
				50	50	45	50	49	119	117	81	55	94
NP2467	Rochelle, IL	Rep. 1	2003	50	50	45	50	49	119	117	81	55	94
NP2467	Rochelle, IL	Rep. 2	2003	55	50	60	70	58	65	80			73
	Location Mean							54					83
NP2467	Glidden, IA	Rep. 1	2003	76	76	88	74	77	104	105	101	102	101
NP2467	Glidden, IA	Rep. 2	2003	78	70	74	66	72	96	93	95	99	91
	Location Mean							74					99
NP2467	Seward, NE	Rep. 1	2003	75	60	50	62	62	125	119	99	54	
NP2467	Seward, NE	Rep. 2	2003	70	83	70	68	75	103	97	104	99	100
	Location Mean							69					99
NP2467	Bloomington, IL	Rep. 1	2003	80	75	101	83	84	101	103	99	99	98
NP2467	Bloomington, IL	Rep. 2	2003	75	83	80	78	79	97	97	51	137	118
	Location Mean							82					99
NP2467	Rochelle, IL	Rep. 1	2004	90	90	90	90	91	119	127	120	104	112
NP2467	Rochelle, IL	Rep. 2	2004	75	90	80	80	78	120	128	112	113	136
	Location Mean							85					119
NP2467	Glidden, IA	Rep. 1	2004	60	72	70	76	70	142	159	125	112	164
NP2467	Glidden, IA	Rep. 2	2004	74	68	72	68	75	185	130	177	140	151
	Location Mean							72					149
NP2467	Seward, NE	Rep. 1	2004	92	85	84	81	84	107	110	105	111	104
NP2467	Seward, NE	Rep. 2	2004	76	78	77	73	76	110	120	104	103	100
	Location Mean							80					107
NP2467	Bloomington, IL	Rep. 1	2004	85	80	85	75	79	90	84	120	116	110
NP2467	Bloomington, IL	Rep. 2	2004	75	75	100	70	80	98	130	139	132	149
	Location Mean							80					117
Mean								74					109
Std. Dev.								9.9					19.7

<u>Inbred Name</u>	<u>Loc.</u>	<u>Replication</u>	<u>Year Date</u>	<u>Heat Units to 10% Pollen Shed</u>		<u>Heat Units to 90% Pollen Shed</u>		<u>Heat Units to 50% Pollen Shed</u>	
NP2467	Rochelle, IL	Rep. 1	2003		1362		1579		1408
NP2467	Rochelle, IL	Rep. 2	2003		1245		1435		1361
	Location Mean				1304		1507		1385
NP2467	Glidden, IA	Rep. 1	2003		1294		1345		1321
NP2467	Glidden, IA	Rep. 2	2003						
	Location Mean				1294		1345		1321
NP2467	Seward, NE	Rep. 1	2003		1334		1450		1358
NP2467	Seward, NE	Rep. 2	2003		1334		1450		1381
	Location Mean				1334		1450		1370
NP2467	Bloomington, IL	Rep. 1	2003		1603		1678		1630
NP2467	Bloomington, IL	Rep. 2	2003		1630		1678		1654
	Location Mean				1616		1678		1642
NP2467	Rochelle, IL	Rep. 1	2004		1169		1209		1193
NP2467	Rochelle, IL	Rep. 2	2004		1169		1209		1193
	Location Mean				1169		1209		1193
NP2467	Glidden, IA	Rep. 1	2004		1306		1351		1327
NP2467	Glidden, IA	Rep. 2	2004		1306		1351		1327
	Location Mean				1306		1351		1327
NP2467	Seward, NE	Rep. 1	2004		1233		1301		1257
NP2467	Seward, NE	Rep. 2	2004		1221		1291		1257
	Location Mean				1227		1296		1257
NP2467	Bloomington, IL	Rep. 1	2004				1288		1278
NP2467	Bloomington, IL	Rep. 2	2004				1264		1209
	Location Mean						1276		1244
Mean					1321		1389		1342
Std. Dev.					141.8		150.4		137.5

200500100

Syngenta Seeds, Inc.
2003 and 2004 Data - NP2467 vs. B73 Comparisons
Exhibit D - Table 6 - Individual Replication Data

Inbred Name	Loc.	Replication	Year Date	Length of Tassel (cm)					Length of Internode (cm)	
NP2467	Rochelle, IL	Rep. 1	2003	44	52	42	42	42	44	10
NP2467	Rochelle, IL	Rep. 2	2003	40	37	35	39	38	38	8
	Location Mean								41	9
NP2467	Glidden, IA	Rep. 1	2003	56	58	36	46	48	49	10
NP2467	Glidden, IA	Rep. 2	2003	48	42	42	42	46	44	12
	Location Mean								46	11
NP2467	Seward, NE	Rep. 1	2003	47	56	36	41	50	46	13
NP2467	Seward, NE	Rep. 2	2003	44	50	46	45	48	47	11
	Location Mean								46	12
NP2467	Bloomington, IL	Rep. 1	2003	43	46	36	41	38	41	11
NP2467	Bloomington, IL	Rep. 2	2003	39	41	44	46	40	42	10
	Location Mean								41	11
NP2467	Rochelle, IL	Rep. 1	2004	35	41	45	42	47	42	11
NP2467	Rochelle, IL	Rep. 2	2004	41	42	47	46	40	43	13
	Location Mean								43	12
NP2467	Glidden, IA	Rep. 1	2004	44	40	40	50	38	42	12
NP2467	Glidden, IA	Rep. 2	2004							12
	Location Mean								42	12
NP2467	Seward, NE	Rep. 1	2004	39	41	35	33	38	37	12
NP2467	Seward, NE	Rep. 2	2004	37	39	33	37	36	37	14
	Location Mean								37	13
NP2467	Bloomington, IL	Rep. 1	2004	44	46	45	41	40	43	12
NP2467	Bloomington, IL	Rep. 2	2004	44	44	42	36	39	41	12
	Location Mean								42	12
Mean									42	11
Std. Dev.									2.7	1.3

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2003 and 2004 Data - NP2467 vs. B73 Comparisons
Exhibit D - Table 6 - Individual Replication Data

<u>Inbred Name</u>	<u>Loc.</u>	<u>Replication</u>	<u>Year Date</u>	<u>Stay Green Rating</u>
NP2467	Rochelle, IL	Rep. 1	2003	6
NP2467	Rochelle, IL	Rep. 2	2003	4
	Location Mean			5
NP2467	Glidden, IA	Rep. 1	2003	
NP2467	Glidden, IA	Rep. 2	2003	
	Location Mean			
NP2467	Seward, NE	Rep. 1	2003	3
NP2467	Seward, NE	Rep. 2	2003	7
	Location Mean			5
NP2467	Bloomington, IL	Rep. 1	2003	2
NP2467	Bloomington, IL	Rep. 2	2003	2
	Location Mean			2
NP2467	Rochelle, IL	Rep. 1	2004	3
NP2467	Rochelle, IL	Rep. 2	2004	4
	Location Mean			4
NP2467	Glidden, IA	Rep. 1	2004	
NP2467	Glidden, IA	Rep. 2	2004	
	Location Mean			
NP2467	Seward, NE	Rep. 1	2004	3
NP2467	Seward, NE	Rep. 2	2004	3
	Location Mean			3
NP2467	Bloomington, IL	Rep. 1	2004	7
NP2467	Bloomington, IL	Rep. 2	2004	7
	Location Mean			7
Mean				5
Std. Dev.				1.9

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<u>Inbred Name</u>	<u>Loc.</u>	<u>Replication</u>	<u>Year DATE</u>	<u>Angle 2nd Leaf</u>	<u>Cob Diameter (mm)</u>	
B73	Rochelle, IL	Rep. 1	2003	20	28	28
B73	Rochelle, IL	Rep. 2	2003	20		
	Location Mean			20		28
B73	Glidden, IA	Rep. 1	2003	20	26	25
B73	Glidden, IA	Rep. 2	2003	20	26	25
	Location Mean			20		26
B73	Seward, NE	Rep. 1	2003	10	31	28
B73	Seward, NE	Rep. 2	2003	30	31	28
	Location Mean			20		30
B73	Bloomington, IL	Rep. 1	2003	5	30	30
B73	Bloomington, IL	Rep. 2	2003	15	30	32
	Location Mean			10		31
B73	Rochelle, IL	Rep. 1	2004	20	29	28
B73	Rochelle, IL	Rep. 2	2004	20	27	27
	Location Mean			20		28
B73	Glidden, IA	Rep. 1	2004	15	27	25
B73	Glidden, IA	Rep. 2	2004	15	25	27
	Location Mean			15		26
B73	Seward, NE	Rep. 1	2004	30	29	28
B73	Seward, NE	Rep. 2	2004	30	28	29
	Location Mean			30		29
B73	Bloomington, IL	Rep. 1	2004	25	30	32
B73	Bloomington, IL	Rep. 2	2004	30	32	30
	Location Mean			28		31
Mean				20		28
Std. Dev.				6.3		2.0

Inbred Name	Loc.	Replication	Year DATE	Ear Height (cm)				Ear Weight (gm)				
				55	60	65	75	62	58	40	66	
B73	Rochelle, IL	Rep. 1	2003	55	60	65	75	62	58	40	66	57
B73	Rochelle, IL	Rep. 2	2003	65	60	65	65	64				
	Location Mean							63				57
B73	Glidden, IA	Rep. 1	2003	96	88	88	88	88	93	105	97	101
B73	Glidden, IA	Rep. 2	2003	92	98	98	94	96	106	99	97	101
	Location Mean							92				99
B73	Seward, NE	Rep. 1	2003	78	93	93	93	89	101	97	98	101
B73	Seward, NE	Rep. 2	2003	93	89	89	95	92	80	106	97	
	Location Mean							91				99
B73	Bloomington, IL	Rep. 1	2003	100	105	105	118	109	116	81	50	116
B73	Bloomington, IL	Rep. 2	2003	90	95	95	85	91	99	55	68	96
	Location Mean							100				77
B73	Rochelle, IL	Rep. 1	2004	110	100	95	95	101	96	102	107	98
B73	Rochelle, IL	Rep. 2	2004	85	105	105	110	100	96	106	98	96
	Location Mean							101				101
B73	Glidden, IA	Rep. 1	2004	82	72	72	82	77	123	159	158	154
B73	Glidden, IA	Rep. 2	2004	104	96	96	102	98	91	149	132	158
	Location Mean							88				141
B73	Seward, NE	Rep. 1	2004	96	86	86	91	89	120	100	115	100
B73	Seward, NE	Rep. 2	2004	90	88	87	81	89	112	118	119	80
	Location Mean							89				108
B73	Bloomington, IL	Rep. 1	2004	100	100	100	90	98	104	120	108	91
B73	Bloomington, IL	Rep. 2	2004	100	100	100	100	96	94	95	99	49
	Location Mean							97				86
Mean								90				97
Std. Dev.								11.9				98
												23.4

Syngenta Seeds, Inc.
2003 and 2004 Data - NP2467 vs. B73 Comparisons
Exhibit D - Table 6 - Individual Replication Data

Inbred Name	Loc.	Replication	Year DATE	Heat Units to 10% Pollen Shed		Heat Units to 90% Pollen Shed		Heat Units to 50% Pollen Shed	
B73	Rochelle, IL	Rep. 1	2003	1222	1325	1286			
B73	Rochelle, IL	Rep. 2	2003	1204	1310	1245			
	Location Mean			1213	1318	1266			
B73	Glidden, IA	Rep. 1	2003	1241	1292	1265			
B73	Glidden, IA	Rep. 2	2003	1292	1342	1318			
	Location Mean			1267	1317	1292			
B73	Seward, NE	Rep. 1	2003	1245	1358	1314			
B73	Seward, NE	Rep. 2	2003	1219	1334	1290			
	Location Mean			1232	1346	1302			
B73	Bloomington, IL	Rep. 1	2003	1549	1630	1603			
B73	Bloomington, IL	Rep. 2	2003	1549	1630	1575			
	Location Mean			1549	1630	1589			
B73	Rochelle, IL	Rep. 1	2004	1079	1193	1145			
B73	Rochelle, IL	Rep. 2	2004	1058	1169	1103			
	Location Mean			1069	1181	1124			
B73	Glidden, IA	Rep. 1	2004	1224	1256	1241			
B73	Glidden, IA	Rep. 2	2004	1241	1270	1256			
	Location Mean			1233	1263	1249			
B73	Seward, NE	Rep. 1	2004	1198	1270	1251			
B73	Seward, NE	Rep. 2	2004	1172	1264	1235			
	Location Mean			1185	1267	1243			
B73	Bloomington, IL	Rep. 1	2004		1209	1196			
B73	Bloomington, IL	Rep. 2	2004		1209	1196			
	Location Mean				1209	1196			
Mean				1250	1316	1282			
Std. Dev.				146.5	138.4	136.2			

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Inbred Name	Loc.	Replication	Year DATE	Length of Tassel (cm)	Length of Internode (cm)
B73	Rochelle, IL	Rep. 1	2003	37	37
B73	Rochelle, IL	Rep. 2	2003	34	34
	Location Mean				
B73	Glidden, IA	Rep. 1	2003	40	44
B73	Glidden, IA	Rep. 2	2003	44	36
	Location Mean				
B73	Seward, NE	Rep. 1	2003	40	41
B73	Seward, NE	Rep. 2	2003	47	41
	Location Mean				
B73	Bloomington, IL	Rep. 1	2003	38	38
B73	Bloomington, IL	Rep. 2	2003	41	43
	Location Mean				
B73	Rochelle, IL	Rep. 1	2004	36	36
B73	Rochelle, IL	Rep. 2	2004	43	37
	Location Mean				
B73	Glidden, IA	Rep. 1	2004	44	40
B73	Glidden, IA	Rep. 2	2004		
	Location Mean				
B73	Seward, NE	Rep. 1	2004	40	39
B73	Seward, NE	Rep. 2	2004	41	41
	Location Mean				
B73	Bloomington, IL	Rep. 1	2004	36	32
B73	Bloomington, IL	Rep. 2	2004	36	44
	Location Mean				
Mean					
Std. Dev.					

Syngenta Seeds, Inc.
2003 and 2004 Data - NP2467 vs. B73 Comparisons
Exhibit D - Table 6 - Individual Replication Data

<u>Inbred Name</u>	<u>Loc.</u>	<u>Replication</u>	<u>Year DATE</u>	<u>Stay Green Rating</u>
B73	Rochelle, IL	Rep. 1	2003	2
B73	Rochelle, IL	Rep. 2	2003	2
	Location Mean			2
B73	Glidden, IA	Rep. 1	2003	
B73	Glidden, IA	Rep. 2	2003	
	Location Mean			
B73	Seward, NE	Rep. 1	2003	1
B73	Seward, NE	Rep. 2	2003	1
	Location Mean			1
B73	Bloomington, IL	Rep. 1	2003	2
B73	Bloomington, IL	Rep. 2	2003	4
	Location Mean			3
B73	Rochelle, IL	Rep. 1	2004	1
B73	Rochelle, IL	Rep. 2	2004	1
	Location Mean			1
B73	Glidden, IA	Rep. 1	2004	
B73	Glidden, IA	Rep. 2	2004	
	Location Mean			
B73	Seward, NE	Rep. 1	2004	1
B73	Seward, NE	Rep. 2	2004	1
	Location Mean			1
B73	Bloomington, IL	Rep. 1	2004	1
B73	Bloomington, IL	Rep. 2	2004	2
	Location Mean			2
Mean				2
Std. Dev.				0.8

Combined Summary:

NP2467
B73

Mean General
Mean Control
Trials w/data
Entries w/data
LSD General (5%) EE
CV (Effective) %
Probability %

Angle 2nd Leaf	Cob Diameter (mm)	Ear Height (cm)	Ear Weight (gm)
15	26	69	95
18	28	86	85
16	27	78	90
4	4	4	4
2	2	2	2
	1	8	
21	2	5	10
32	1	1	20

200500100

Combined Summary:

NP2467	Heat Units to 10% Pollen Shed	Heat Units to 90% Pollen Shed	Heat Units to 50% Pollen Shed	Length of Tassel (cm)
B73	1387	1495	1429	44
Mean General	1315	1402	1362	40
Mean Control				
Trials w/data	1351	1449	1396	42
Entries w/data	4	4	4	4
LSD General (5%) EE	2	2	2	2
CV (Effective) %	52		60	2
Probability %	2	4	2	3
	2	8	4	2

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Combined Summary:

NP2467
B73
Mean General
Mean Control
Trials w/data
Entries w/data
LSD General (5%) EE
CV (Effective) %
Probability %

Length of Internode (cm)	Stay Green Rating
11	4
13	2
12	3
4	3
2	2
0	
1	47
0	16

200500100

Combined Summary:

NP2467
 B73

Mean General
 Mean Control
 Trials w/data
 Entries w/data
 LSD General (5%) EE
 CV (Effective) %
 Probability %

16	26	79	123
23	28	94	112
19	27	86	117
4	4	4	4
2	2	2	2
19	5	3	6
7	13	0	12

200500100

Combined Summary:

NP2467
B73

Mean General
Mean Control
Trials w/data
Entries w/data
LSD General (5%) EE
CV (Effective) %
Probability %

Heat Units to 10% Pollen Shed	Heat Units to 90% Pollen Shed	Heat Units to 50% Pollen Shed	Length of Tassel (cm)
1234	1283	1255	41
1162	1230	1203	38
1198	1257	1229	40
3	4	4	4
2	2	2	2
	47	46	
2	2	2	6
5	4	4	16

200500100

Combined Summary:

NP2467
 B73

Mean General
 Mean Control
 Trials w/data
 Entries w/data
 LSD General (5%) EE
 CV (Effective) %
 Probability %

Length of Internode (cm)	Stay Green Rating
12	5
13	1
12	3
4	3
2	2
9	40
57	6

200500100

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE**EXHIBIT E**
STATEMENT OF THE BASIS OF OWNERSHIP

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) Syngenta Seeds, Inc.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME NP2467
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) P.O. Box 959 Minneapolis, MN 55440	5. TELEPHONE (Include area code) (763) 593-7333	6. FAX (Include area code) (763) 593-7828
7. VPPO NUMBER 200500100		

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain.

☒ YES☐ NO

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country.

☒ YES☐ NO

10. Is the applicant the original owner?

☒ YES☐ NOIf no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES☐ NO

If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES☐ NO

If no, give name of country

11. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

(See attached Exhibit E Addendum)

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

Syngenta Seeds, Inc.
NP2467
Exhibit E, Block #11

Additional Explanation on Ownership

Syngenta breeder, Albert R. Hornbrook, developed inbred NP2467, working primarily from Boynton Beach, Florida and Bloomington, Illinois (see Exhibit A for detail). Hornbrook was a corn breeder for Ciba Geigy Company at the beginning of the line's development, was employed by Novartis Seeds, Inc. (formed by the merger of Ciba Seeds and Sandoz Seeds) during development of the inbred, and was employed by Syngenta Seeds, Inc. at the completion of the line's development in 2000. This line is exclusively owned by Syngenta Seeds, Inc. (formed by the merger of the agribusinesses of Novartis and Zeneca in 1999).